

REMARKS

In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

The objections to the claim to priority and the specification are obviated by the amendments above.

The rejection of claims 41-52 and 78-83 under 35 U.S.C. § 112 (first paragraph) is respectfully traversed. The U.S. Patent and Trademark Office ("PTO") takes the position that the claimed subject matter is not described in such a way to enable one skilled in the art to make or use the invention. Specifically, the PTO argues that the specification is lacking for not disclosing how to express the gene products of SEQ ID NOS: 1 and 2 in host cells. However, from page 17, line 1 to page 20, line 4, the specification discloses methods for introducing nucleic acid molecules into host cells and expressing the gene products. In particular, on page 17, lines 9-26, the specification teaches how to express sodium channel proteins in *Xenopus*. The reference cited in that section provides evidence of the state of the art at the time that the application was filed. That those of skill in the art could express functional foreign sodium channel proteins in host cells.

There is sufficient evidence in the specification to allow those of skill in the art to conclude that the disclosed proteins are functional sodium channel proteins. The sequences of the genes used in the present invention were determined from cDNA libraries, indicating that the genes are expressed in the cell. The proteins encoded by the genes have the conserved regions of known functional sodium channel genes. Moreover, a partial gene sequence was determined, which was then used to obtain the whole gene sequence. The partial gene sequence was from a gene which is tightly linked to an insecticide resistance trait (Knipple et al., "Tight Genetic Linkage Between the *kdr* Insecticide Resistance Trait and a Voltage-Sensitive Sodium Channel Gene in the House Fly," Proc. Nat'l Acad. Sci. USA, 91:2483-2487 (1994)). Based upon the homology in the conserved regions, the tight linkage to the insecticide resistance, and the fact that the protein is expressed in cells, those of skill in that art would correlate the protein encoded by the gene sequence with a function of a sodium channel and insecticide resistance.

The PTO indicates that it would require undue experimentation to practice the invention. However, the law is clear, enablement is not precluded by the necessity for some

experimentation. In re Wands, 858 F.2d 731, 736-37, 8 U.S.P.Q.2D (BNA) 1400, 1404 (Fed. Cir. 1988). "The key word is 'undue,' not 'experimentation.'" Id. Here, experimentation would be needed to put the genes into foreign host cells. However, as noted above, the specification and the references cited therein demonstrate that to those of ordinary skill in the art how to carry out such experimentation. Furthermore, the papers cited in the specification demonstrate that the methods described can be used effectively to generate host cells which express functional sodium channels.

For the above reasons, the specification is enabling for those of skill in the art and the rejection under 35 U.S.C. § 112 (first paragraph) should be withdrawn.

In view of the foregoing, it is submitted that this case is in condition for allowance, and such allowance is earnestly solicited.

Respectfully submitted,

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| I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on the date below. | |
| June 5, 2000 | Ruth R. Smith |
| Date | Ruth R. Smith |